

a specimen from the Chieng Rai district in Siam. lat. 20° N., and it probably occurs in Burma in the same latitude; at present it is only known in Tenasserim as far as Dawna Hills'. This record of the species near Imphal further extends its northern distribution limit to lat. 25° N. and the western limit from Burma to Assam.

So far only two species, *D. norvilli* and *D. maculatus* have been recorded from north-east India. The former from Nagaland Hills and Goalpara (Assam) and the latter from north-east India to the whole of Indo-Chinese Peninsula and Hainan, extending south to lat. 8° N. in Thailand. It may be mentioned in passing that the occurrence of a species *D. dussumieri* Dum. & Bib. only in south-west India, provides an interesting case of discontinuous distribution of this eastern and predominantly Malayan genus in peninsular India, separated from its allies in Assam by a wide gap.

Measurements (mm.)

Snout to vent	..	96.00
Tail	..	169.00
Head (snout to lower angle of jaw)	..	10.45
Snout	..	6.20
Breadth of head (near tympanum)	..	10.30
Orbit	..	7.40

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11. ON THE OCCURRENCE AND BREEDING OF *CATLA* *CATLA* (HAMILTON) IN TAPTI RIVER

(With a map)

According to Jones & Sarojini (1952), the natural distribution of *Catla catla* (Hamilton) is from Sind and Punjab in the north along upper India to Krishna River in the south and as far as Burma in the east. Among peninsular rivers, *Catla* is known to occur in Narbada River (Rajan & Kaushik 1958) and Tapti River may therefore be considered within the range of the natural distribution of *Catla*.

But enquiries (during the fishery survey of 1959-60) from fishermen of Tapti River and at fish markets in Madhya Pradesh, Maharashtra and Gujarat States where fish from Tapti is sold indicated that *Catla* does not occur in Tapti River. Since the Tapti becomes extremely shallow in certain stretches during summer months, it cannot be considered a natural and favourable habitat for a large and deep bodied fish like *Catla* (maximum length, at least 6 ft.; Day 1878) which is known to thrive in large and deep rivers. In rare instances, *Catla* occurs in deep pools of small and shallow rivers, which serve as its temporary abode in summer (Setna & Kulkarni 1946). While exploring new fish seed resources in Tapti River during south-west monsoon season from June to September 1961, evidence of occurrence and breeding of *Catla* in a certain section of the Tapti was noticed and are reported in the present note.

Several samples of fish seed collected from a section of Tapti River near Bodhan (Surat District, Gujarat State) from 16-7-1961 to 15-9-1961 were reared in two local seasonal tanks, to ascertain their quality. Examination of fish samples from one of these tanks, after three weeks rearing, revealed the presence of 26 fingerlings (2-3 inches) of *Catla*, which made up 1.1% of the samples. As this seasonal tank was stocked exclusively with Tapti fish seed, these observations showed that the latter included some *Catla* seed and that *Catla* has not only established itself in certain stretches of the Tapti but also successfully breeds upstream of Bodhan during monsoon floods. This evidence is particularly significant in view of the earlier observations regarding non-availability of *Catla* in Tapti River.

The occurrence of *Catla* in the Tapti River reported above appears to be accidental, caused by escape of major carps from the overflowed Vyara Tank into the Mindhola River and thence, during monsoon inundations into the Tapti, the lower reaches of which are reported to get connected with Mindhola (Map). Grown up specimens of *Catla* and Rohu have been reported caught from Gaviar Tank which has no history of stocking with these species. These must be escapes from Vyara Tank trapped during their migration into Tapti through Mindhola. This is thus another instance of *Catla* adapting itself to deep pools in small shallow rivers. If the stock in such situations like the deep pools at the base of Kakarapar Weir is conserved, potential fish seed collection centres could develop along the course of the river.

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12. KACHAL, A TACKLE FOR FILE-FISH (FAMILY BALISTIDAE: PISCES)

(With a text-figure)

To suit local exigencies and conditions several indigenous types of gear have been developed by fishermen from ancient times which though primitive and crude in appearance are efficient in their own way. One such gear is the *Kachal*, used to capture the file-fish (Balistidae) along the south-west coast of India between Muttum and Vizhingam. Since good results are obtained at little cost, the gear is used extensively by fishermen. No information is available about this in any of the published records. Enquiries show that *kachal* has been in use for over 75 years.

The *kachal* consists of a circular frame about 25 cm. in diameter made of coconut leaf stalk and a bag-like net. Three or four finely twisted cotton strings about 50 cm. in length are tied to the frame at equal intervals (Text-figure). The strings are tied together and to a

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